

TOP SECRET**PRIORITY**

3 DEC 68 22 32Z

T O P S E C R E T 032213Z DEC 68 CITE [REDACTED] 5158
PRIORITY [REDACTED]PASS TO ARPA/AS,
SUBJECT: HAVE CHARITY (REQUEST FOR FILM DATA)
REF: [REDACTED] 12035 DTG 18 OCT 68
[REDACTED] 4528 DTD 30 OCT 68

1. THE REFERENCED MESSAGE DATED 18 OCT 68 REQUESTS THAT [REDACTED] INDICATE THE BEST RESOLUTION OBSERVED ON THE ORIGINAL NEGATIVE OF VARIOUS FILM TYPES AND TO SUGGEST FILM TYPES AND DEVELOPING TECHNIQUES FOR USE ON THE HAVE CHARITY PROJECT. A SUBSEQUENT MEETING WAS HELD WITH [REDACTED] ON 12 NOV 68 WHERE THE QUESTIONS POSED IN THE REFERENCED MESSAGE WERE FURTHER AS FOLLOWS:

- A. WHAT ARE THE BEST RESOLUTION FIGURES OBTAINED ACCORDING TO [REDACTED] TECHNOLOGISTS ON VARIOUS FILM TYPES (3400, 3404, ETC) [REDACTED] 25X1
- B. WHAT PROCESSING TECHNIQUES WERE USED TO OBTAIN THESE RESULTS? [REDACTED] 25X1
- C. WHAT IS [REDACTED] RECOMMENDATION ON THE BEST FILM TYPE AND PROCESSING TECHNIQUE TO OBTAIN THE RESOLUTION REQUIRED BY THE HAVE [REDACTED] PROJECT? [REDACTED] 25X1

DISTRIBUTION		
AD	OFFICE	PI
DEFENSE SEC		25X1
FP&B/ND		
SECUR.		
ISS		25X1
PSG/OC		25X1
RND		
RP&B		25X1
AND		
ICD		
PROD		
SCIEW		
WEST		25X1
EAST		
AS		
TYPE		25X1
COMBINATION OF		
FIGURES		
GROUND		
WERE		
SPAD		
DIA-AP		25X1
CON		
GROUND		
FILM		
FOCAL		
RES		
TARGET		
CONTRAST		25X1

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2. THE FOLLOWING TABLE SHOWS THE BEST RESOLUTION FIGURES IN LINES PER MILLIMETER (1/MM) ACHIEVED ON VARIOUS FILMS FROM SATELLITE MISSIONS EVALUATED AT [REDACTED] THE TABLE REFLECTS A COMBINATION OF FILM TYPES, PROCESSING LEVEL, AND CAMERA SYSTEMS. THE 1/MM FIGURES WERE COMPUTED FROM THE STANDARD EQUATION FOR CONVERTING GROUND RESOLUTION TO LINES PER MILLIMETER. THE GROUND RESOLUTIONS WERE OBTAINED BY PHOTOGRAPHING CONTROLLED RANGE NETWORK RESOLUTION TARGETS LOCATED WITHIN THE U.S. THE TARGET CONTRAST IS THE COM RATIO BETWEEN THE BARS AND BACKGROUND AT THE TARGET ON THE GROUND.

FILM TYPE	SYSTEM	FOCAL LENGTH	DEVELOPMENT	RES L/MM	TARGET CONTRAST
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3404	KH-4B	24"	SPRAY (3 LEVEL)	154	25 TO 1
3404	KH-7	77"	VISCOUS (3 LEVEL)	157	5 TO 1
3404	KH-4B	24"	VISCOUS (DUAL GAMMA)	188	10 TO 1
3404	KH-4A	24"	SPRAY (3 LEVEL)	142	9 TO 1
3400	KH-4A	38MM	DEEP TANK	&	--

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&DUE TO THE LACK OF CONTROL DATA ON OPERATIONAL MISSIONS USING TYPE 3400 FILM, [REDACTED] CANNOT ACCURATELY CALCULATE THE BEST RESOLUTION ON THIS TYPE FILM. RESOLUTION TARGETS APPROPRIATE FOR THIS FOCAL LENGTH CAMERA SYSTEM WERE NOT DISPLAYED.

3. BASED ON EXPERIENCE IN EVALUATING THE VARIOUS FILM/PROCESSING

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GROUP 1
Excluded from automatic
downgrading and
declassification

— 2 —

COMBINATIONS, IT SHOULD BE POINTED OUT THE EACH COMBINATION PROVIDES CERTAIN MERITS AT THE EXPENSE OF OTHERS. [REDACTED] CANNOT MAKE RECOMMENDATIONS FOR THE USE OF A PARTICULAR FILM IN A PARTICULAR SYSTEM BECAUSE WE DO NOT KNOW THE WEIGHT ASSIGNED TO THE VARIOUS FACTORS OF THE HAVE [REDACTED] PROJECT. TYPE 3404, SO-205 AND SO-380 WILL PROVIDE FINER GRAIN AT THE EXPENSE OF FILM SPEED. TYPE 3400 OR 3401 WILL PROVIDE ADEQUATE SPEED AT THE EXPENSE OF GRAIN. SIMILAR ADVANTAGES AND DISADVANTAGES CAN BE ATTRIBUTED TO THE PROCESSING AS WELL. [REDACTED] HAS EVALUATED A LIMITED QUANTITY OF TYPE 3404 PROCESSED WITH BIMAT PROCESSING WHICH PROVIDES EXCELLENT POTENTIAL FOR BOTH EDGE DEFINITION AND HIGH RESOLUTION WITHOUT SACRIFICING FILM SPEED. THE HAVE [REDACTED] PROJECT MAY WANT TO INVESTIGATE THIS COMBINATION BECAUSE OF ITS RAPID ACCESS CAPABILITY.

25X1
25X1
25X1
25X1

T O P S E C R E T

END OF MESSAGE